

REMARKS

In light of the remarks to follow, reconsideration and allowance of this application are respectfully solicited.

In the Office Action under reply, the drawings were objected to because they include reference numerals not mentioned in the specification. Additionally, the drawings were further objected to because they do not include reference numerals mentioned in the specification. These objections are addressed and overcome by amending the paragraph beginning at page 4, line 16 in the specification.

The Examiner objected to the Abstract because the abstract includes the word "said." This objection is addressed and overcome by the amendment made to the Abstract.

The Examiner also objected to the use of the trademark "LeCroy" in the specification. This objection is addressed and overcome by the amendment made to the paragraph bridging pages 4 and 5.

Finally, the Examiner objected to the recitation of "PRBS" in the paragraph bridging pages 6 and 7 of the specification. This objection is addressed and overcome by the amendment made to the paragraph.

The Examiner is thanked for his careful review of the Amendment filed April 5, 2007. Applicant's representative wishes to express his gratitude for the noted withdrawal of the previous objections to the claims and claim rejections based upon 35 USC 112 and 35 USC 101. It is noted the Examiner has withdrawn his previous rejection of the claims under 35 USC 103. However, he now cites the new reference to Ghiasi (U.S. Patent 6,546,345) to reject claims 1-8 and 11-18 under 35 USC 102. Claims 9, 10, 19 and 20 merely were objected to as being

dependent upon a rejected base claim. For the reasons now discussed, the rejection of claims 1 and 11, the only independent claims present in this application, is requested to be withdrawn.

Applicant's representative has compared the teachings of Ghiasi, and particularly those portions of Ghiasi particularly relied upon by the Examiner, to claims 1 and 11; and has concluded that Ghiasi fails to disclose or suggest the following claim recitations:

“dividing an acquired waveform into a plurality of waveform slices;  
categorizing each of said plurality of waveform slices according to at least a sequence of N bit values prior to a bit value being observed;  
averaging said waveform slices in each category resulting in an average pattern for each category ...”.

Ghiasi does not divide an acquired waveform into a plurality of waveform slices. The Examiner's reference to identifiers X0-X5 at column 4 of Ghiasi do not refer to or identify waveform slices. Rather, each of these identifiers identifies a transition, i.e. the rising or falling edge, in the input waveform shown in Ghiasi's Fig. 3. As stated at column 4, lines 29-34, identifier X0 identifies the rising edge of the 6-bit wide pulse shown in Fig. 3, identifier X1 identifies the falling edge of this same 6-bit wide pulse, identifier X2 identifies the rising edge of a 1-bit wide pulse, identifier X3 identifies the falling edge of that same 1-bit pulse, and so on. The rising and falling edges of the respective pulses are not "waveform slices" as called for by Applicant's claims. Rather, these identifiers simply identify the transitions in the waveform between the lower and upper levels.

The Examiner further asserts that Ghiasi discloses the feature of categorizing each of the plurality of waveform slices according to an N-bit sequence prior to the bit being observed. Here too, the Examiner refers to Ghiasi's identifiers X0 - X5, the same identifiers which the Examiner argues are waveform slices, as also representing categories of waveform slices. But, as noted

above, Ghiasi does not describe any waveform slices to categorize. His identifiers X0 - X5 simply identify waveform transitions at the beginning and end of a 6-bit wide binary pulse and of a 1-bit wide binary pulse (see, col. 4, lines 28-36 of Ghiasi). Compare Ghiasi to the categorization used in the present invention. Applicant recognizes that the physical representation of a data bit is influenced by the sequence of preceding bits. That is, preceding bits may distort or corrupt the appearance of the next-following bit and, thus, the waveform. By categorizing a waveform slice by the bits preceding it, bits with similar influences from prior bits can be grouped. By averaging the waveform slices within a category, random noise can be averaged out, but the effects from different influences caused by different preceding bit patterns are not. By knowing the category of preceding bits, different physical characteristics in a bit being observed can be detected.

There is no basis in the disclosure of Ghiasi for one of ordinary skill in the art to conclude that the rising and falling edges of the waveform constitute waveform slices or categories of waveform slices. The fact that Ghiasi describes a 6-bit wide binary 1 pulse or binary 0 pulse has nothing to do with categorizing a waveform slice "according to at least a sequence of N bit values prior to a bit value being observed," as recited by claims 1 and 11. Ghiasi does not recognize or disclose the influence of a sequence of preceding bits on a bit being observed, which is the purpose of the "categorizing" of Applicant's claim 1.

In his discussion of Ghiasi, the Examiner contends that Ghiasi discloses, in Fig. 3 and in the paragraph bridging columns 4 and 5, the feature of "averaging said waveform slices in each category, resulting in an average pattern for each category." Applicant's representative respectfully disagrees with this contention. While Ghiasi uses waveform averaging to capture a waveform in a non-persistent mode (see Abstract), there is no description, particularly in the

paragraph bridging Ghiasi's columns 4 and 5, identified by the Examiner, of "averaging said waveform slices in each category resulting in an average pattern for each category," as recited by Applicant's claims 1 and 11. Ghiasi refers to "calculating the average power of the waveform" (column 4, lines 63-64); but this has nothing to do with waveform slices, or with averaging the waveform slices, or with categorizing the waveform slices, or with averaging the waveform slices in each category, all as specified by Applicant's claims 1 and 11.

The Examiner also concludes that Ghiasi stores the average pattern for each category, as demonstrated by the description at column 5, lines 24-25 of Ghiasi. But this portion of the reference simply states that the waveform under observation "is captured and stored" in the oscilloscope. It is respectfully submitted, storing the captured waveform is quite different from "storing the average pattern for each category" as recited by Applicant's claim 1. Ghiasi's stored waveform is the waveform that is captured -- it is not the average pattern resulting from averaging the waveform slices in each category. There are no categories and there is no average pattern of the waveform slices for Ghiasi to store.

Finally, the Examiner states that Ghiasi displays "each of said averaged patterns in an overlaid manner." While Ghiasi clearly displays the captured waveform, as shown in his Fig. 3, there are no average pattern for Ghiasi to display. Moreover, it is respectfully submitted that Ghiasi fails to teach the display of anything in an overlaid manner. Those portions of Ghiasi upon which the Examiner relies for this alleged teaching do not suggest an overlaid display.

Therefore, in view of the significant differences between the recitations of each of claims 1 and 11 and the teachings of Ghiasi, it is respectfully submitted that Ghiasi fails to anticipate or render obvious Applicant's claimed invention. Accordingly, the withdrawal of the rejection of claims 1 and 11 as being anticipated by Ghiasi is respectfully requested.

Claims 2-8 depend from claim 1 and include all of the limitations recited by the independent claim. Likewise, claims 12-18 depend from claim 11 and include all of the limitations recited by claim 11. Therefore, these dependent claims are patentably distinct from Ghiasi for the very same reasons discussed above.


Statements appearing above in respect to the disclosures in the cited reference represent the present opinions of the undersigned attorney and, in the event the Examiner disagrees with any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the reference providing the basis for a contrary view.

Applicant's representative has made a diligent effort to explain and carefully point out the differences between the claims present in the instant application and the teachings of Ghiasi. Should the Examiner believe it would be helpful to the successful conclusion of the prosecution of this application, he is cordially invited to telephone Applicant's representative at the below number.

Reconsideration and allowance of claims 1-20, and the issuance of the Notice of Allowance of the present application, are respectfully requested.

Respectfully submitted,

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